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| APPLICATION NO. 09/277,312 | FILING DATE 03/26/99 | FIRST NAMED INVENTOR BUCKINGHAM | ATTORNEY DOCKET NO. 53836USA1A |
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| EXAMINER HUK, V |
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| ART UNIT 1714 | PAPER NUMBER 4 |
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DATE MAILED: 03/31/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trad marks

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| Office Action Summary | Application No. 09/277,312 | Applicant(s) BUCKINGHAM ET AL | |
| | Examiner VERONICA P. HOKE | Group Art Unit 1714 |  |

☐ Responsive to communication(s) filed on _____

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire THREE month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

☒ Claim(s) 1-15 _____ is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-15 _____ is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 2 & 3

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

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Claim Rejections - 35 U.S.C. § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Welna (671) .

Patentability is predicted on applicants determination that a fire retardant composition (Claims 1-10) suitable for caulking or sheet purposes **comprising a halogen-free polymer, a water insoluble intumescent mineral granule such as a hydrated alkali metal silicate and / or expandable graphite**, optionally with an oxy boron compound **and a phosphorus containing flame retardant** is unobvious because it manifests “ a softness value of about 0.01 to about 3.75 mm.” Application of the composition to provide a fire barrier on doors or window (claims 11 and 12) as well as a process of making the composition itself (claims 13-15) by utilizing high shear mixing which may be provided by utilizing a heated twin screw extruder are claimed aspects as well. These are compositions and methods which are well within Welna’s teachings.

Welna discloses that a putty type composition comprising a rubbery resin which may be ethylene vinyl acetate or a synthetic or natural diene rubber (col.1, lines 46-57) and which is free of halogenous substances can be formed by incorporating suitable intumescent agents and a

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phosphorus containing flame retardant (col.4, line 19- col.5, line 62). The intumescent agents may comprise both a **hydrated alkali metal silicate** (optionally with an oxy boron compound) **and/ either expanded or expandable graphite** (col.4, line 21). The **flame retardant may be a phosphorus containing compound such as ammonium polyphosphate**. Applicant has merely adopted Welna's formulation in its expandable graphite aspect. Merely because Welna did not exemplify this formulation does not render his disclosure any less instructive .Although Welna's exemplified compositions' softness ratings are higher than applicants' maximum , applicants determination that utilizing the **expandable** graphite permits such attainment is not considered unexpected since the motivation resides in the fact that this is an obvious variation of one of Welna's preferred intumescent combinations comprising hydrated alkali metal silicate and expanded graphite. By utilizing the unexpanded graphite, any gap in the area previously filled will expand upon pyrolysis because the graphite will exfoliate, Utilizing already expanded graphite does not take in allowance the caulk 's possible shrinkage causing burning penetration that could be prevented by utilizing a form of graphite which would fill this void upon the onset of high thermal conditions. Accordingly the softness rating applicants report is inherent in adopting this variation of Welna's putty formulation. Softness can also be moderated by the amount of plasticizer utilized; this is within applicants claims scope as well. Accordingly there are well known alternative means of adjusting the ingredients other than graphite to attain particular levels of softness.

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Application of the putty to doors or windows as firestops is an objective inherent in Welna's disclosure of the composition's application to penetratable areas in building such as walls , floors and other areas adjoining vulnerable objects such as cables, etc. See the paragraph bridging cols 2 and 3.

Claims 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Welna (671) as applied to claims 1-12 above, and further in view of Michaeli..

One of the disclosed method for preparing Welna's putty is by utilizing a "mogul " mixing device which is ostensibly productive of high shear conditions because it is equipped with circulating cooling water (col.6, lines 35-41). In so far as a twin- extruder is utilized by applicants , Michaeli relates (page 94) that this is a typical compounded device for plasticating mixes. Applicants mix is considered a plasticable mix for the reasons stated above.


VERONICA P. HOKE
PRIMARY EXAMINER

vph

March 25, 2000

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